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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,864	03/19/2004	Chong-Khai Ng	61080(71987)	7641
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			ART UNIT 2622	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/804,864

Applicant(s)

NG ET AL.

Examiner

Usman Khan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16 is/are rejected.
- 7) ☒ Claim(s) 15 and 17-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Specification*

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 – 5, 8 – 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuchimukai et al. (US PgPub 2001/0007469) in further view of Weng et al. (US patent No. 6,477,329).

Regarding **claim 1**, Fuchimukai et al. discloses an automatic angle adjusting system for an image capturing device (paragraph 0006 *et seq.*), the image capturing device having an image capturing unit for capturing an image (figure 2), the automatic angle adjusting system comprising: an angle detector for detecting the location of the image capturing unit (figure 2 items 50, 71, and 72 also figures 4 – 8, and 14); and a controlling device for storing the preset angle value and calculating an angle of the location of the image capturing unit deviating from the preset angle (figure 2 items 50,

71, and 72 sending information to item 30 also in figures 4 – 8, and 14 sending information to item 30). deviated angle and resume the preset angle

However, Fuchimukai et al. fails to disclose an automatic angle adjusting system also comprises: a driving device for providing the image capturing unit with a mechanical driving force that drives the image capturing unit to rotate to a preset angle to capture the image. The controlling device transmits a signal to the driving device that drives the image capturing unit to rotate to compensate the deviated angle and resume the preset angle. Weng et al., on the other hand discloses an automatic angle adjusting system comprising: a driving device for providing the image capturing unit with a mechanical driving force that drives the image capturing unit to rotate to a preset angle to capture the image. A controlling device transmits a signal to the driving device that drives the image capturing unit to rotate to compensate the deviated angle and resume the preset angle.

More specifically, Weng et al. discloses an automatic angle adjusting system comprising: a driving device for providing the image capturing unit with a mechanical driving force that drives the image capturing unit to rotate to a preset angle to capture the image (figures 3 – 4 and column 1 lines 33 *et seq.* and column 1 lines 59 *et seq.*). A controlling device transmits a signal to the driving device that drives the image capturing unit to rotate to compensate the deviated angle and resume the preset angle (column 1 lines 59 *et seq.* control button; Note: when Weng et al. invention is combined with Fuchimukai et al. invention the controller of Fuchimukai et al. will be controlling the

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operation of the camera for automatic rotation, one would have been motivated to combine the features to have an automatic easier means for adjusting).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Weng et al. with the teachings of Fuchimukai et al. because in column 1 lines 7 – 10 and lines 38 - 42 Weng et al. teaches that the invention relates to digital cameras and more particularly to a digital camera with rotatable components such as lens, flash, viewfinder, and liquid crystal display (LCD) with improved picture taking characteristics and the digital camera has the benefits of ergonomic, precise picture taking, full covering of object by flash, and without worrying the dropping or damage caused therefrom as experienced in prior art while taking a picture.

Regarding **claim 2**, as mentioned above in the discussion of claim 1, Fuchimukai et al. in further view of Weng et al. teaches all of the limitations of the parent claim. Additionally, Fuchimukai et al. teaches that the preset angle is an angle of the image to be captured deviating from a horizontal line (figure 8 horizontal when camera held horizontally, figures 4 – 7 deviating from horizontal).

Regarding **claim 3**, as mentioned above in the discussion of claim 2, Fuchimukai et al. in further view of Weng et al. teaches all of the limitations of the parent claim. Additionally, Fuchimukai et al. teaches that the preset angle is 0 degrees parallel to the

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horizontal line (Paragraphs 0035 and 0044 *et seq.* normal horizontal position when camera held horizontally).

Regarding **claim 4**, as mentioned above in the discussion of claim 2, Fuchimukai et al. in further view of Weng et al. teaches all of the limitations of the parent claim. Additionally, Fuchimukai et al. teaches wherein the preset angle is an angle other than 0 degrees (figure 8 horizontal when camera held horizontally, figures 4 – 7 deviating from horizontal i.e. angle other than 0 degrees).

Regarding **claim 5**, as mentioned above in the discussion of claim 1, Fuchimukai et al. in further view of Weng et al. teaches all of the limitations of the parent claim. Additionally, Fuchimukai et al. teaches a display device for receiving a signal from the controlling device to display a shooting status of the image capturing device (paragraph 0030 LCD panel 18 indicates various settings and photo-graphic information).

Regarding **claim 8**, as mentioned above in the discussion of claim 1, Fuchimukai et al. in further view of Weng et al. teaches all of the limitations of the parent claim. Additionally, Weng et al. teaches that the driving device comprises a motor and a gear mechanism connected to the motor (figures 3 – 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Weng et al. with the teachings of Fuchimukai et al. because in column 1 lines 7 – 10 and lines 38 - 42 Weng

et al. teaches that the invention relates to digital cameras and more particularly to a digital camera with rotatable components such as lens, flash, viewfinder, and liquid crystal display (LCD) with improved picture taking characteristics and the digital camera has the benefits of ergonomic, precise picture taking, full covering of object by flash, and without worrying the dropping or damage caused therefrom as experienced in prior art while taking a picture.

Regarding **claim 9**, as mentioned above in the discussion of claim 1, Fuchimukai et al. in further view of Weng et al. teaches all of the limitations of the parent claim. Additionally, Fuchimukai et al. teaches that the angle detector is a horizon angle detector (figures 4 – 8, and 14).

Regarding **claim 10**, as mentioned above in the discussion of claim 1, Fuchimukai et al. in further view of Weng et al. teaches all of the limitations of the parent claim. Additionally, Fuchimukai et al. teaches that the angle detector comprises a conductive pattern board (it is inherent that the sensor shown in figures 4 – 8, and 14 are on a pattern circuit board), a tunnel member formed in the conductive pattern board (it is inherent that the sensor shown in figures 4 – 8, and 14 are on a pattern circuit board also the tunnels formed surrounding the metal ball), and at least one conductive element rotatably mounted in the tunnel member (figures 4 – 8, and 14 items 51 – 54; also paragraph 0042).

Regarding **claim 11**, as mentioned above in the discussion of claim 10, Fuchimukai et al. in further view of Weng et al. teaches all of the limitations of the parent claim. Additionally, Fuchimukai et al. teaches that the tunnel member comprises a plurality of metal pads (It is inherent that in figures 4 – 8, and 14 the output of 51 – 54 will be sent to item 30 through connection of pads).

Regarding **claim 12**, as mentioned above in the discussion of claim 11, Fuchimukai et al. in further view of Weng et al. teaches all of the limitations of the parent claim. Additionally, Fuchimukai et al. teaches that the metal pads are partly embedded in an inner wall of the tunnel member and serve as switches (It is inherent that in figures 4 – 8, and 14 the output of 51 – 54 will be sent to item 30 through connection of pads located at the connection points).

Regarding **claim 13**, as mentioned above in the discussion of claim 11, Fuchimukai et al. in further view of Weng et al. teaches all of the limitations of the parent claim. Additionally, Fuchimukai et al. teaches that the metal pads are arranged in two rows, and at least one pair of the metal pads each from one of the rows form a tactile switch that is capable of being electrically actuated to generate a position signal indicating a position of the pair of metal pads (4 – 8, and 14, items 51 and 52 or 52 and 54 or 53 and 54 or 51 and 53).



Regarding **claim 14**, as mentioned above in the discussion of claim 1, Fuchimukai et al. in further view of Weng et al. teaches all of the limitations of the parent claim. Additionally, Fuchimukai et al. teaches that the controlling device is a microprocessor (figure 2 item 30 also in figures 4 – 8, and 14 item 30).

Regarding **claim 16**, as mentioned above in the discussion of claim 1, Fuchimukai et al. in further view of Weng et al. teaches all of the limitations of the parent claim. Additionally, Weng et al. teaches that the preset angle is inputted via an input interface (column 1 lines 33 – 42; control button).

Claims 6 - 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuchimukai et al. (US PgPub 2001/0007469) in further view of Weng et al. (US patent No. 6,477,329) in further view of Dilcox (US patent No. 4,516,329).

Regarding **claim 6**, as mentioned above in the discussion of claim 1, Fuchimukai et al. in further view of Weng et al. teaches all of the limitations of the parent claim.

However, Fuchimukai et al. in further view of Weng et al. fails to disclose a display device for receiving a signal from the controlling device to display a light signal indicating that the image capturing unit is adjusted to a preset balance position. Dilcox, on the other hand discloses a light that blinks when the device is at a specific angle.

More specifically, Weng et al. discloses a light that blinks when the device is at a specific angle (figure 1 item 34 also column 1 lines 55 – 66, column 2 lines 39 – 48, and column 3 lines 42 - 48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Dilcox with the teachings of Fuchimukai et al. in further view of Weng et al. because in column 1 line 33 – column 2 line 6 Dilcox teaches that using the invention the user can easily and quickly determine the angle of the device which in turn will improve the output of the camera image by having the camera at a desired angle or leveled.

Regarding **claim 7**, as mentioned above in the discussion of claim 1, Fuchimukai et al. in further view of Weng et al. teaches all of the limitations of the parent claim.

However, Fuchimukai et al. in further view of Weng et al. fails to disclose a sound device for receiving a signal from the controlling device to generate a sound signal indicating that the image capturing unit is adjusted to a preset balance position. Dilcox, on the other hand discloses an alarm device that buzzes when the device is at a specific angle.

More specifically, Weng et al. discloses an alarm device that buzzes when the device is at a specific angle (column 1 lines 55 – 60 and column 3 line 59 – column 4 line 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Dilcox with the teachings of Fuchimukai et al. in further view of Weng et al. because in column 1 line 33 – column 2 line 6 Dilcox teaches that using the invention the user can easily and quickly determine

the angle of the device which in turn will improve the output of the camera image by having the camera at a desired angle or leveled.

***Allowable Subject Matter***

**Claims 15 and 17 – 20** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter for **claim 15**: "The automatic angle adjusting system as claimed in claim 11, wherein the controlling device comprises a conversion module, an angle preset module, a comparison calculating module, a compensation calculating module, a motor driving module and a display driving module; the conversion module for receiving position signals from the electrically actuated metal pads of the tunnel member to obtain the location of the image capturing unit and for calculating the angle of the location of the image capturing unit deviating from a horizontal line; the angle preset module for inputting and storing the present angle value; the comparison calculating module for receiving the deviated angle value from the conversion module and the preset angle value from the angle preset module to calculate an angle of difference between the preset angle and the deviated angle; the compensation calculating module for receiving the angle value of difference from the comparison calculating module and calculating a reverse compensation angle for resuming the preset angle; the motor driving module for receiving the reverse compensation angle value and for calculating a rotation direction

and rotation turns for the driving device to resume the preset angle and generating a signal indicating the rotation direction and rotation turns; and the display driving module for receiving the deviated angle value from the conversion module, the preset angle value from the angle preset module and the reverse compensation angle value from the compensation calculating module, and converting these angles into parameters, and for receiving a rotation complete signal from the motor driving module” is not discussed or suggested in any of the prior art that was searched.

Regarding **claims 17 - 20**, these claims are also objected to as allowable as being dependent from objected claim 15.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yamaguchi (US patent No. 6,690,457) teaches an inclination sensor.

Parulski et al. (US patent No. 5,900,909) camera having automatic orientation sensing.

Lim (US patent No. 5,557,329) teaches a mechanical rotation imager.

Thornsberry (US patent No. 5,450,676) teaches a mechanical leveler.

Shimamura et al. (US patent No. 4,972,595) teaches an inclination sensor.

Schmelzer (US patent No. 5,042,158) teaches an inclination sensor.

Kazumi et al. (US patent No. 6,140,635) teaches an inclination sensor.

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Hjertman et al. (US patent No. 6,664,534) teaches an inclination sensor.

Havens et al. (US patent No. 6,708,416) teaches a tube inclination sensor.

Ozaki et al. (US patent No. 6,377,302) teaches a rotating imager.

Fullam (US patent No. 5,764,291) teaches an inclination sensor.

Yamaguchi (US PgPub 2002/0071114) teaches an inclination sensor.

Isoyama (US PgPub 2003/0063200) teaches an inclination sensor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Usman Khan whose telephone number is (571) 270-1131. The examiner can normally be reached on Mon-Thru 6:45-4:15; Fri 6:45-3:15 or Alt. Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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05/22/2007  
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